WHAT IS CLAIMED IS:

1. An alternator comprising:

a case;

a shaft passing through said case;

a rotor secured to said shaft, said rotor including a rotor coil for generating a magnetic flux on passage of an electric current therethrough, and a plurality of claw-shaped magnetic poles extending in an axial direction and covering said rotor coil, said claw-shaped magnetic poles being magnetized into North-seeking (N) and South-seeking (S) poles by said magnetic flux;

a stator including a stator core provided with a plurality of slots formed so as to extend axially and be spaced circumferentially, and a stator winding mounted to said stator core;

slip rings secured to said shaft;

brushes the end of which slide on the slip rings supplying electric current to said rotor coil through said slip rings from an electric power supply;

a brush holding assembly which said shaft passes through, said brush holding assembly holding said brushes within a holding portion and provided with a cover capable of being opened to remove said brushes; and

a cap for closing an open portion for removal and insertion of said brushes, said open portion being formed at a position on said case facing said cover.

2. The alternator according to Claim 1 wherein said brush holding assembly extends to a vicinity of said open portion.

3. The alternator according to Claim 1 wherein a regulator for adjusting the magnitude of an alternating voltage generated in said stator and a cooling plate placed in contact with said regulator are disposed on said brush holding

assembly so as to overlap each other on the non-rotor side of said brush holding assembly.

4. The alternator according to Claim 3 wherein said cooling plate is provided with plural cooling fins extending in a radial direction of said rotor.

5. The alternator according to Claims 3 wherein a partition wall for making the cooling air passing through said cooling plate take a circuitous route toward said brushes is provided.

6. The alternator according to Claim 5 wherein said partition wall is formed so as to be integral with said cap.

7. The alternator according to Claim 1 wherein a cooling fan to generate forced convection in said case is provided between said rotor and said brush holding assembly.

8. The alternator according to Claim 1 wherein a conducting wire of said stator winding extends outwards in an axial direction from an end surface of said stator core and is formed into coil ends having a uniform shape in a circumferential direction.